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Remarks

In view of the following discussion, the applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U. S. C § 103. Thus, the applicants believe that all of these claims are in allowable form.

OBJECTIONS

A. Drawings

The Examiner has objected to FIG. 5 because the reference sign 52' is not mentioned in the description. Applicant has amended FIG. 5 to include the reference sign 52, which is mentioned in the specification at page 4, line 20. A replacement sheet for FIG. 5 is attached to this paper. An annotated sheet including FIG. 5 showing the change is also attached. No new matter has been added with this amendment to the figures.

In view of the above amendment, the basis for the Examiner's objection to the drawings has been removed. As such, it is respectfully requested that this objection be withdrawn.

REJECTIONS

A. 35 U. S. C. § 103

1. Claims 1-3 are not obvious over Pohle in view of Van Eck

Claims 1-3 stand rejected under 35 U. S. C. § 103(a) as being obvious over Pohle (U. S. Patent 2,582,454 issued January 15, 1952) in view of Van Eck

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(U. S. Patent 5,861,708 issued January 19, 1999). The applicants submit that these claims are not rendered obvious by the combination of these references.

Claim 1 is directed toward an electron gun for a cathode-ray tube (see, specification at page 1, line 11). The electron gun includes at least one cathode for emitting an electron beam and a dish-shaped control electrode 25' (see, FIG. 5 and the specification at page 2, lines 1-3). Cathode supports 56' support the cathode at a specified distance from the control electrode 25' (see, FIG. 5 and the specification at page 2, lines 6-7). The dish-shaped control electrode 25' is formed of at least three separate metal components: a substantially planar part 61 and two metal components 60, 66 forming a skirt (see, FIG. 5 and the specification at page 2, lines 8-13). The substantially planar part 61 has a center portion with at least one aperture 43' 44' for the passage of the electron beam emanating from the cathode and two end portions 63 (see, FIGS. 5-6 and the specification at pages 2, lines 3-6). The center portion of the planar part 61 is connected to the two end portions 63 through a curved portion (see, FIG. 5). The two metal components 60, 66 forming the skirt at least partially surround the cathode (see, FIG. 5 and the specification at page 2, lines 11-12). Ends of the two metal components 60, 66 overlap wherein the outer surface of one end of the two metal components faces the inner surface of the end of the other of the two components (see, FIG. 5 and the specification at page 4, lines 31-32). The two metal components 60, 66 each having periphery portions 62 extending outward from the cathode for attaching to the end portions 63 of the substantially planar part 61 (see, FIG. 5 and the specification at page 4, lines 25-28).

Pohle describes an electron gun of a cathode ray tube (see, Pohle at column 1, lines 1-3). The electron gun includes a cathode having a cap 18 on which emissive material 19 is located (see, Pohle at FIG. 3 and column 1, lines 62-63). The cathode is surrounded by a grid cylinder 11, that is capped by a disc 12 at one end (see, Pohle at FIG. 3 and column 1, lines 54-57). The disc 12 is clasped to the cylinder 11 with a ring 13 that matches a rib 14 on the cylinder 11 (see, Pohle at FIG. 3 and column 1, lines 57-60).

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Pohle does not describe or suggest an electron gun including a dish-shaped control electrode formed of at least three separate metal components: a substantially planar part and two metal components forming a skirt where the two metal components forming the skirt at least partially surround a cathode and ends of the two metal components overlap such that the outer surface of one end of the two metal components faces the inner surface of the end of the other of the two components. Rather, Pohle teaches a completely different arrangement in which a cathode is surrounded by only two separate components: a grid cylinder that is capped with a disc where the disc is attached to the cylinder with a ring. Since Pohle does not teach an electron gun including a dish-shaped control electrode formed of at least three separate metal components: a substantially planar part and two metal components forming a skirt where the two metal components forming the skirt at least partially surround a cathode and ends of the two metal components overlap such that the outer surface of one end of the two metal components faces the inner surface of the end of the other of the two components, claim 1 is patentable over Pohle.

Van Eck describes an in-line electron gun of a cathode ray tube (see, Van Eck at column 1, lines 4-7). The electron gun includes grids 31, 32 manufactured from a single piece of folded material (see, Van Eck at FIG. 3 and column 3, lines 13-20) between which a tubular part 33 is situated (see, Van Eck at FIG. 3 and column 2, lines 53-55). The tubular part may be made of two portions 61A, 61B welded together at points 62 (see, Van Eck at FIG. 6 and column 3, lines 38-41).

Van Eck does not describe or suggest an electron gun including a dish-shaped control electrode formed of at least three separate metal components: a substantially planar part and two metal components forming a skirt where the two metal components forming the skirt at least partially surround a cathode and ends of the two metal components overlap such that the outer surface of one end of the two metal components faces the inner surface of the end of the other of the two components. Rather, Van Eck teaches a completely different arrangement in which an electron gun having grids manufactured from a single

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piece of folded material are situated between a tubular part made of two portions welded together. Since Van Eck does not teach an electron gun including a dish-shaped control electrode formed of at least three separate metal components: a substantially planar part and two metal components forming a skirt where the two metal components forming the skirt at least partially surround a cathode and ends of the two metal components overlap such that the outer surface of one end of the two metal components faces the inner surface of the end of the other of the two components, claim 1 is patentable over Van Eck.

Furthermore, since Pohle only teaches a completely different arrangement in which a cathode is surrounded by only two separate components: a grid cylinder that is capped with a disc where the disc is attached to the cylinder with a ring and Van Eck teaches an electron gun having grids manufactured from a single piece of folded material are situated between a tubular part made of two portions welded together, the combination of these references does not describe or suggest applicants arrangement recited in claim 1. In particular, claim 1 describes an electron gun including a dish-shaped control electrode formed of at least three separate metal components: a substantially planar part and two metal components forming a skirt where the two metal components forming the skirt at least partially surround a cathode and ends of the two metal components overlap such that the outer surface of one end of the two metal components faces the inner surface of the end of the other of the two components. Thus, claim 1 is patentable over the combination of these references.

Claims 2-3 depend directly from claim 1. In view of such dependence on claim 1, the applicants submit that claims 2-3 are also patentable over Pohle in view of Van Eck.

CONCLUSION

Thus, the applicants submit that none of the claims, presently in the application are obvious under the provisions of 35 U. S. C. § 103.

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Consequently, the applicants believe that all of the claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues in any of the claims now pending in the application, it is requested that the Examiner telephone Ms. Patricia A. Verlangieri, at (609) 734-6867, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,


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